

Literature Review About the Effect of Intellectual Capital on Firm Value

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Abstract. This literature review reviews the relationship between intellectual capital and firm value. Research has been attempted and carried out by researchers from various countries about intellectual capital and firm value, with value added intellectual capital as a framework of intellectual capital. Research on this theme shows different and varied results, there are those that show positive and negative relationships, there are those that show no relationship between intellectual capital and firm value. Empirical studies have not shown the same common ground, so this literature review is carried out. Literature review is expected to benefit researchers who will examine the same theme.

Keywords: intellectual capital, VAIC, firm value

1 Introduction

Empirical research on intellectual capital has been initiated since the 1980s with the inclusion of communication technology as forming the knowledge economy. Intellectual capital is intangible capital. One factor that emphasizes the importance of intellectual capital in companies is the change in management focus from tangible capital to intangible capital when considering the processes of creating value in the company. Efforts have been made by academics, practitioners and researchers on this matter, but have not shown a common ground. This article seeks to present an overview of various literature and studies related to the relationship of intellectual capital. The results of this study are expected to be a strong basis for further research and can contribute to the existing literature. This article is divided into 5 parts, the first part presents an introduction related to intellectual capital and firm value. The second part presents a review of the literature on intellectual capital. The third section presents VAIC. The fourth section presents the relationship of intellectual capital and firm value. The fifth section presents the discussions and conclusions related to the reviews presented.

2 Results and Discussions

2.1 Intellectual capital

In the early 1980s the emergence of intangible value which was generally understood as goodwill. In the mid 1980s the emergence of the information era with the entry of information

technology that shaped the knowledge economy. In 1995, Nonaka and Takeuchi demonstrated the creation of corporate knowledge focused on intellectual capital. Intellectual capital became popular as a topic of research in the following years. Previous researchers worked on what is meant by intellectual capital. Intellectual capital is the company's capital to win the competition (Bontis, 1996). Intellectual capital is a hidden asset to maintain competitive advantage (Roos and Roos, 1997). Intellectual capital is knowledge, information, intellectual capital and experience (Steward, 1997). Intellectual capital clarifies the difference in book value and market value of a company (Edvinsson and Malone, 1997). Intellectual capital is company capital that can be converted into corporate value (Sveiby, 1998). Intellectual capital is company capital that utilizes knowledge effectively (Bontis, 1999).

The results of empirical studies show the importance of intellectual capital. We can say that the greatest benefit of managing Intellectual capital is managing firm value creation (Roos et al., 1997). Previous researchers claim that companies are beginning to realize that technology-based competitiveness is temporary and that sustainable profits depend on managing intellectual capital, namely intangible resources (Johansen et al., 1999a). Other empirical research claims that sustainable profits depend on the ability of companies to create value through knowledge management (Lev, 2001; Sveiby, 2001). Companies that can manage intellectual capital properly will be able to drive the value of the firm and competitive advantage will increase (Bounfour, 2009).

2.2 Value Added Intellectual Capital

Current research has developed not only on the importance of managing Intellectual capital, but also on its measurement. The value platform model was developed by Petrash (1996) by classifying intellectual capital as an accumulation of human capital, organizational capital and customer capital. Steward (1997) classifies intellectual capital as an accumulation of human capital, structural capital, customer capital. In 1999, Pulic proposed Value Added Intellectual Capital (VAIC) as a research framework on Intellectual Capital by classifying efficiency of human capital, structural capital efficiency and employee capital efficiency. Value Added Intellectual Capital (VAIC) is a very popular and developing model in many countries. Calculation of Value Added Intellectual Capital (VAIC) revealed is the sum of three elements, namely efficiency of human capital, structural capital efficiency and capital employee efficiency.

Value Added Intellectual Capital (VAIC) has limitations because it does not include relation capital and innovation capital. To overcome this limitation, studies are conducted to expand the value added intellectual capital. Intellectual capital management allows companies to innovate and express signals to the market about growth opportunities so that market value increases (Stähle et al., 2011; Sardo and Serrasqueiro., 2017; Smriti & Das, 2018). The modified and expanded value added intellectual capital (VAIC) model in the study was applied by adding relation capital and innovation capital. Proxy of relation capital is the cost of marketing and advertising, while innovation capital is proxied by R&D expenses. So for value added modification is the sum of operating profit, depreciation, amortization, employee salaries and wages, marketing and advertising expenses, R&D expenses (Xu, J., & Liu, F., 2020).

2.3 Intellectual Capital and Company Value

The first approach to the theory of value is carried out by M.J. Langeveld, 1957 by arguing that value is something that has a price. Rokech's research, 1973 shows that values are about what

should and shouldn't be. Meglino and Ravlin, 1998 say that value is about the result of how someone interprets information. Over time, the question arises, what is meant by the value of the company. Jensen and Meckling, 1976 show that determining the value of a company in achieving its goals is always strongly associated with the value of its shareholders. The traditional view of the company and the view of Jensen and Meckling still focus on shareholders as the most important group because it has the highest bargaining power in the company. The traditional view of the concept of shareholder value as an explanation for company value is opposed by a group of researchers who believe that corporate value does not have to be based on shareholders but must include all stakeholder groups.

Johnson et al., 1999 shows knowledge management can create value. Bounfour, 2003 suggested that intellectual capital can drive value. Research Bukh, 2003 shows that the disclosure of intellectual capital is part of the framework of the process of creating corporate value. Nuryaman, 2015 shows that there is an influence of intellectual capital on firm value. Alste Kalvionyte and Renata Korsakiene, 2016 showed that intellectual capital is a key factor in creating added value for the company. Costin Daraban, 2017, the importance of managing intangible assets to create value. Kyonok Kim, 2017, economic value is no longer based only on material goods but on the creation of intellectual capital which plays an important role in creating competitive advantage. Aftab Ahmed et al., 2019, intellectual capital shows a positive relationship.

Ravi Lankoni in his book "Firm Value" 2018 shows that there has been a paradigm shift about company theory in many perspectives. Corporate value no longer only involves the explicit relationships of various stakeholders such as shareholders and debt holders, but incorporates implicit relationships to be included in the value creation process. Various efforts of researchers to uncover determinants of company value. Frederico Belo Vito et al., 2019 found the results of his research that the importance of physical capital to assess companies declined in the last decade, while the importance of knowledge capital increased. On average physical capital accounts for 30% to 40% of the company's market value, installed labor accounts for 14% to 22%, knowledge capital accounts for 20% to 43% and brand capital accounts for 6% to 25%.

2.3 Discussion

The results of empirical studies show the importance of managing Intellectual capital for value creation such as case studies conducted by Nonaka and Takeuchi, 1995. Intellectual capital is capital to win the competition, Bontis, 1996. Intellectual capital is a hidden asset to maintain competitive advantage, Roos and Roos, 1997. Intellectual capital is corporate capital that can be converted into corporate value, Sveiby, 1998. The results of empirical studies show that there is a relationship between intellectual capital and firm value, such as the results of Johnson et al; 1999, Bounfour, 2003; Nuryaman, 2015; Appuhami and Bhuyan, 2015; Alste Kalvionyte and Renata Korsakiene, 2016; Costin Daraban, 2017; Aftab Ahmed, Muhammad Kashif Khurshid, Mohammad Usman Yousaf, 2019. The results of the study of Meditinos, et al., 2011; Mehralian, et al., 2012; shows there is no relationship between intellectual capital and firm value. Chang and Heish, 2011; Bentoen, 2012, shows a negative relationship between intellectual capital and value. The study of Khan and Raushan (2016) also does not show a significant relationship. The discussion proposed above shows the need for further research on the relationship of intellectual capital and firm value.

The importance of further research on the relationship of intellectual capital and value, encourages experts to create models of measurement and reporting of intellectual capital. Pulic,

1998, developed a research model Value Added Intellectual Capital (VAIC) that measures the impact of managing Intellectual Capital, Ulum, et al., 2008. By managing intellectual capital, companies can innovate and express signals to the market about growth opportunities, Stähle et al., 2011; Sardo and Serrasqueiro., 2017; Smriti & Das, 2018. Efforts to develop value added intellectual capital were carried out by Xu, J., & Liu, F., 2020, by adding relation capital and innovation capital. Proxy of relation capital is the cost of marketing and advertising, while innovation capital is proxied by R&D expenses. So for value added modification is the sum of operating profit, depreciation, amortization, employee salaries and wages, marketing and advertising expenses, R&D expenses.

3 Conclusion

The findings of this article will certainly make a strong contribution in the existing literature and provide a solid basis for research that uses intellectual capital as the main driver for value creation or not. Based on these findings it is concluded that more research is needed related to intellectual capital and firm value to clarify the role of intellectual capital in creating corporate value.

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